

PERFUSION INDEX AND/OR INTERNAL JUGULAR VEIN COLLAPSIBILITY INDEX IN PREDICTING HYPOTENSION IN ELDERLY PATIENTS UNDERGOING ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY

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Results

Table (1): Characteristics of the patients underwent general anesthesia for ERCP with comparison between the cohort with perfusion index and internal jugular vein collapsibility index measured (Group II) and the cohort with the perfusion index measured only (Group I)

Variable	Total (N = 60)	Group I (n = 30)	Group II (n = 30)	P
Age (years)	68.9 ± 6.4	68.2 ± 5.4	69.6 ± 7.3	0.390
Sex				
Male	34 (56.67)	17 (56.7)	17 (56.7)	1.000
Female	26 (43.33)	13 (43.3)	13 (43.3)	
Weight (Kg)	78.4 ± 8.4	76.7 ± 8.6	80.1 ± 8.1	0.120
Pre-induction Perfusion Index	3.6 ± 0.7	3.7 ± 0.6	3.4 ± 0.8	0.084
Pre-induction IJV Collapsibility Index			48.95 ± 6.49	
Duration of ERCP (min)	32.17 ± 5.82	28.86 ± 6.027	36.1 ± 6.75	0.001
Propofol dose (mg)	136.4 ± 34.8	123.8 ± 28.5	148.9 ± 36.4	0.004*
Fentanyl dose (mcg)	67.9 ± 9.0	66.5 ± 9.0	69.2 ± 9.1	0.256
Early post-induction hypotension ^a	5 (8.33)	0 (0)	5 (16.7)	0.052
Late post-induction hypotension ^b	7 (11.67)	1 (3.3)	6 (20)	0.103

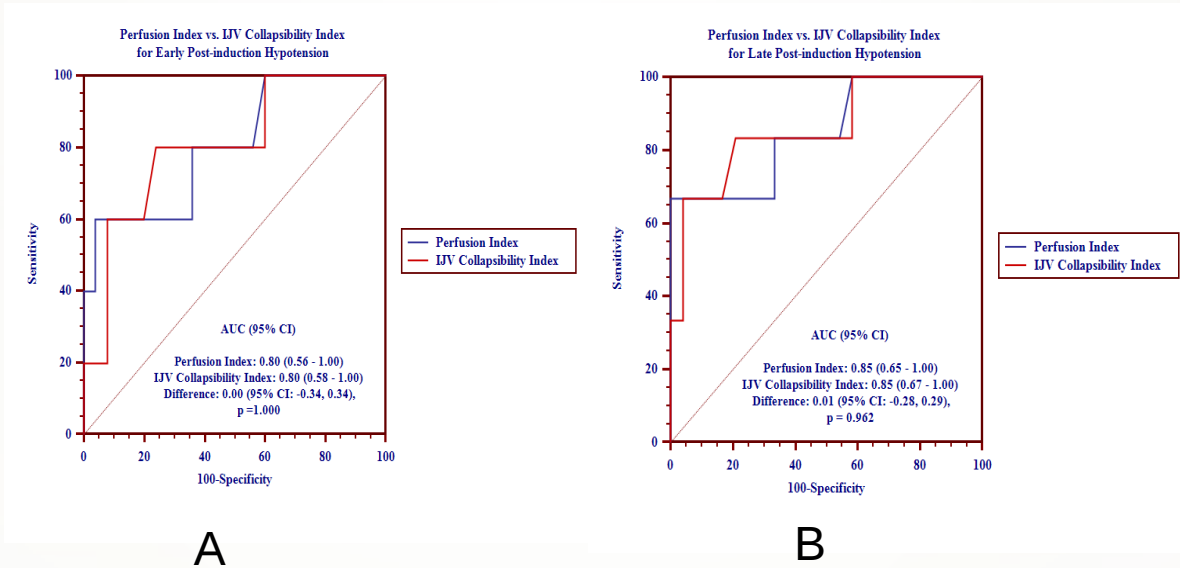


Figure 2: ROC Curves Comparing PI and IJV-CI for Early (A) and Late (B) Post-induction Hypotension in group 2

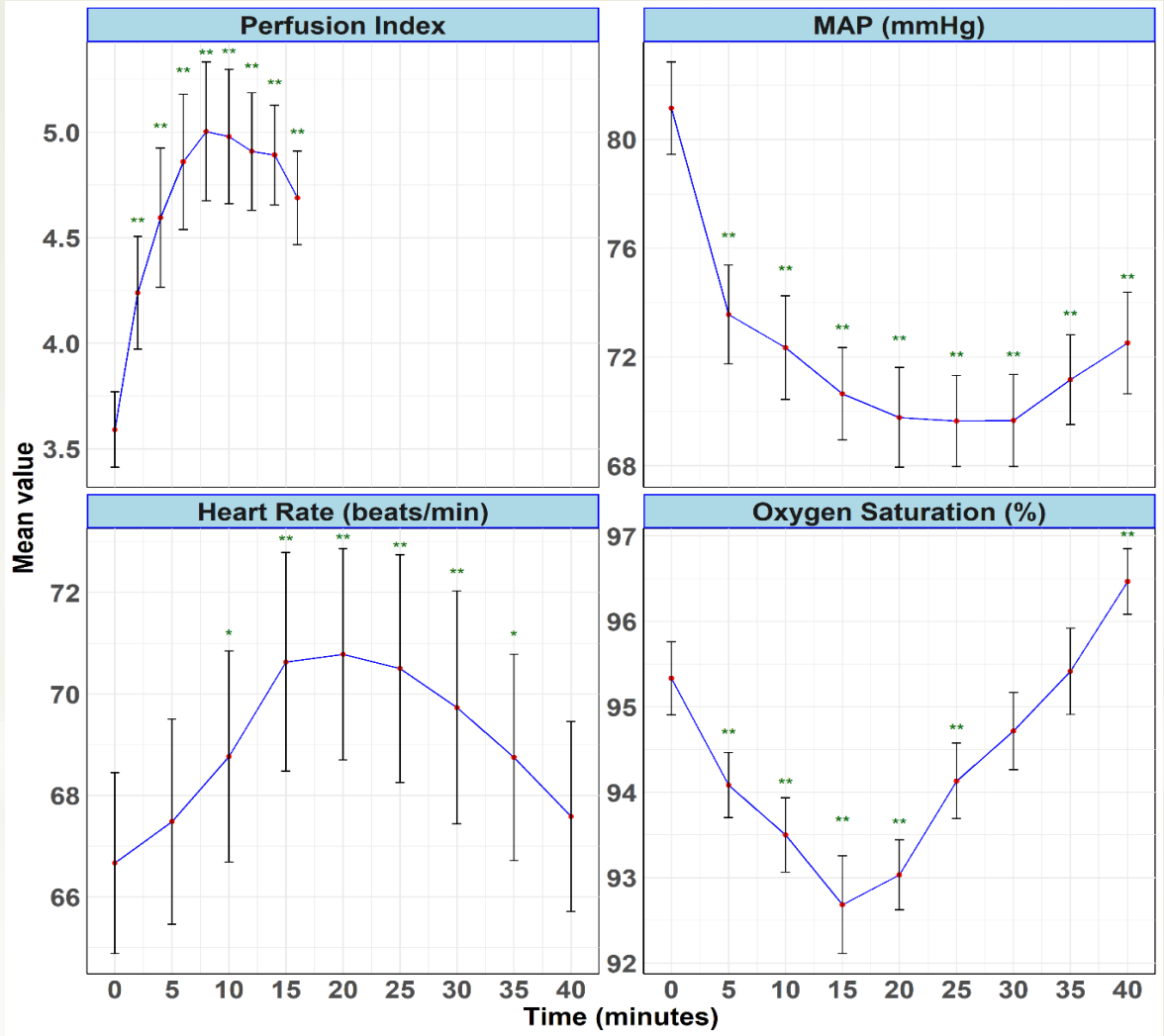


Figure 1: Temporal changes in physiological parameters post-general anesthesia induction in patients undergoing ERCP. Each graph displays mean values with error bars representing 95% confidence intervals. Significant deviations from baseline are marked with asterisks, where * denotes $p < 0.05$ and ** denotes $p < 0.001$, indicating moments of significant change from the pre-induction measurements.

Conclusion

PI is an easy and valuable tool in predicting incident hypotension at the start of sedation. Also, Internal jugular vein (IJV) sonography is a simple non-invasive tool for perioperative use, with moderate predictive value in detecting hypotension for elderly patients receiving sedation for ERCP.

Introduction

The use of the Perfusion Index (PI) and Internal Jugular Vein Collapsibility Index (IJV-CI) for predicting hypotension during anaesthesia is a promising domain pivotal in clinical monitoring. Both indices are non-invasive tools that can provide valuable insights into a patient's circulatory status and the likelihood of hypotension, which is an essential concern during anaesthesia

Aim of the work

The aim of this study was to predict the occurrence of post-induction hypotension in patients undergoing Endoscopic retrograde cholangiopancreatography (ERCP) using PI and/or IJV-CI to evaluate the sensitivity and specificity of each parameter (PI and IJV-CI) in predicting post-induction hypotension.

Patients and methods

This study was conducted on 60 patients scheduled for ERCP with sedation. Patients was randomly divided into two groups, group (I) PI was used to predict hypotension and group II the IJV-CI was used beside the PI. Propofol and fentanyl were applied to induce sedation and continuous infusion was conditioned to keep sedation score 3.

In group (I) baseline values were recorded for PI, then every 2 minutes for a period of 16 minutes after induction of sedation. In group II besides PI measurement, IJV-CI was evaluated before induction of anaesthesia and after 16 minutes using Sonosite ultrasound machine. All patients was subjected to monitoring anaesthesia care during the procedure. Incidence of hypotension after induction and the total doses of propofol (mg) used in the first 16 minutes of the procedure were recorded.